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10/561,748

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EXAMINER

YAN, REN LUO

ART UNIT

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/561,748	<b>Applicant(s)</b> GYGI, MATTHIAS	
	<b>Examiner</b> Ren L. Yan	<b>Art Unit</b> 2854	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 October 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7, 11-16, 21-24 and 26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7, 11-16, 21-24 and 26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

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### **DETAILED ACTION**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 - 7, 11-16, 21-24 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art (hereinafter AAPA) in view of Raksha et al. (Patent No.: 7047883) and Corver et al (5,247,317).

With respect to claims 1 and 11, AAPA teaches in Fig. 1 and on page 7 of the present specification the structure and method of a printing machine for printing a substrate in the form of a sheet or continuous web as claimed, said substrate being intended to receive at least one impression, comprising at least one transfer system for conveying the substrate onto an impression cylinder 6, at least one screen of cylindrical shape 7, 8 equipped with a doctor blade, the screen collaborating with the impression cylinder and intended to print the substrate by screen-printing with an ink and an unloading system 9 for carrying the substrate away after the printing operation.

However, AAPA does not teach to use optically variable ink and magnetic element(s) disposed on the impression cylinder at a location corresponding to the impression on the substrate so as to orientate the pigments contained in the optically variable ink and create a varying optical effect in said impression and does not teach that the magnetic element(s) are covered by a sheet of non-magnetic material.

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Raksha et al. discloses in Figs. 12A-C and 11B as well as column 13 lines 25 - 67 a printing machine for printing a substrate (212) in the form of a sheet or continuous web the conventional use of optically variable ink 215 and magnetic elements 202, 204, 206, 208 disposed on the surface of an impression cylinder at locations corresponding to ink impressions 220 so as to orientate the magnetically alignable flakes contained in the optically variable ink 215 and enhance the visual quality of the images thus printed.

Carver et al teach the conventionality of providing a magnetic roller 130 with a sheet of non-magnetic material 131 such as aluminum or stainless steel to cover the magnets 135 disposed on the roller surface. See Fig. 2 and column 3, lines 43-59 in Carver et al for example.

It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the printing machine and method of AAPA with the optically variable ink and magnetic elements on the surface of the impression cylinder appropriately disposed as taught by Raksha et al in order to predictably orientate the pigments contained in the optically variable ink and create a varying optical effect in said impression. The application of the teaching of Raksha et al in the printing machine and method of AAPA would thus predictably achieve enhanced visual quality of the printed product and provide security features when printing on high-value documents such as bank notes.

It would also have been obvious to one of ordinary skill in the art at the time of the invention to provide the magnetic elements on the cylinder surface of AAPA, as modified by Raksha et al with a sheet of non-magnetic material such as aluminum or stainless steel as taught

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by Carver et al so as to predictably obtain a homogeneous magnetic field at the surface of the cylinder.

With respect to Claim 2, AAPA, as modified by Raksha et al and Corver et al teaches wherein the substrate receives a plurality of impressions arranged in the form of a matrix (Fig. 12C in Raksha et al) and wherein the impression cylinder comprises a plurality of magnetic elements arranged in a corresponding matrix form.

With respect to Claim 3, AAPA, as modified by Raksha et al and Corver et al teaches all that is claimed except for the magnetic elements arranged on a cylinder in an unloading system.

However Raksha et al. et al. also teach in Figs. 12B an unloading system comprising a cylinder 222' having at least one magnetic element (202') on its surface.

Therefore it would have been obvious to a person of ordinary skill in the art at the time of invention was made to have further modified the printing machine of AAPA by using a magnetic element in a cylinder in the unloading system as taught by Raksha et al in order to predictably orientate the pigments contained in the optically variable ink and create a varying optical effect in said impression.

With respect to Claim 4, AAPA, as modified by Raksha et al and Corver et al teaches wherein said cylinder is an unloading cylinder 222'.

With respect to Claim 5, AAPA, as modified by Raksha et al and Corver et al teaches wherein said cylinder is an intermediate cylinder. The Examiner notes that since an intermediate

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cylinder has not been properly defined in relation to the rest of the printing machine structure, the roller 222' in Raksha et al reads on the intermediate cylinder as recited.

With respect to Claims 6 and 22, AAPA, as modified by Raksha et al and Corver et al teaches wherein said magnetic element or elements create a magnetic field in a predetermined direction as recited.

With respect to Claims 7 and 23, AAPA, as modified by Raksha et al and Corver et al teaches wherein magnetic element or elements are oriented in a direction parallel and/or perpendicular to the direction of travel of the substrate as recited.

With respect to Claim 12, AAPA, as modified by Raksha et al Corver et al teaches wherein the magnetic field orientates the pigments (magnetic flakes) in a predetermined direction.

With respect to Claim 13, AAPA, as modified by Raksha et al and Corver et al teaches wherein the pigments (magnetic flakes) are orientated in a direction parallel and/or perpendicular to the direction of travel of the substrate.

With respect to claim 14, AAPA, as modified by Raksha et al and Corver et al teaches (page 7 of the present specification) wherein a first impression is formed on the substrate and subjected to a first magnetic field and dried, and a second impression is formed on the first impression and subjected to a second magnetic field and then dried so as to create a multi-color image.

With respect to claim 15, AAPA, as modified by Raksha et al and Corver et al teaches wherein two impressions are formed on the substrate to create a multi-color image. It would have been obvious to those skilled in the art to orient the magnetic flakes in the two impressions

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in different directions in order to create a special visual effect to further enhance the quality of the image.

With respect to Claim 16, AAPA, as modified by Raksha et al and Corver et al teaches wherein said impressions comprises a plurality of individual impressions arranged in a matrix form (12C in Raksha et al).

With respect to Claim 21, AAPA, as modified by Raksha et al and Corver et al teaches wherein a corresponding magnetic field is produced for each of said individual impressions.

With respect to claims 24 and 26, AAPA, as modified by Raksha et al and Corver et al teaches wherein the sheet of non-magnetic material is made of aluminum or of stainless steel.

Applicant's arguments filed on 10-22-2009 have been fully considered but they are not persuasive.

Applicant argued that the function, structure and purpose of the magnetic roller 130 of Corver et al is fundamentally different from what is specifically claimed in the instant invention because the magnetic roller 130 of Corver et al is specifically designed to transfer and apply a uniform layer of printing material (namely toner) while the cylinder of the claimed invention is rather used to orient pigments that are contained in the optically variable ink that has been applied onto a substrate by means of the claimed at least one screen. The cylinder of the claimed invention is brought into contact with the substrate onto which the optically variable ink has been applied, whereas, according to Corver et al, the magnetic roller 130 does not contact the substrate to be printed at all. Applicant further argued that the magnets 135 of the magnetic roller 130 are stationary in the case of Corver et al. In contrast, the claimed invention requires the at least one magnetic element to be on the printing surface of the cylinder so as to rotate together with the

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cylinder so as to follow the movement of the substrate onto which the impression of optically-variable printing ink has been made. The Examiner does not disagree with applicant's assessment of what the invention of Corver et al is about. However, applicant's arguments are misdirected. As pointed out in the forgoing rejection, AAPA, as modified by Raksha et al teaches all that is claimed including the use of optically variable ink printed by screen printing and the magnetic element(s) disposed on the surface of an impression cylinder at locations corresponding to ink impressions so as to orientate the optically variable ink to enhance the visual quality of the images thus printed. The Corver et al patent was relied on for the teaching of providing a magnetic roller 130 with a sheet of non-magnetic material 131 such as aluminum or stainless steel to cover the magnets 135 disposed on the roller surface for the purpose of obtaining a homogeneous magnetic field at the surface of the cylinder. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the magnetic elements on the cylinder surface of AAPA, as modified by Raksha et al with a sheet of non-magnetic material such as aluminum or stainless steel as taught by Carver et al so as to predictably obtain a homogeneous magnetic field at the surface of the cylinder. Accordingly, the teaching of Corver et al was properly applied and the rejection is hereby maintained.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period



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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ren L. Yan whose telephone number is 571-272-2173. The examiner can normally be reached on 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on 571-272-2258. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ren L Yan/  
Primary Examiner, Art Unit 2854  
Jan. 7, 2010